

# Dr. Julia Kiseleva

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## *Julia's Resume*

### Education

- 2012–2016 **PhD in Computer Science**, *Eindhoven University of Technology*, Eindhoven, the Netherlands.
- 2002–2007 **MS in Computer Science**, *Saint-Petersburg State University*, Saint-Petersburg, Russia.

### PhD thesis

title *"Using Contextual Information to Understand Searching and Browsing Behavior"*

description Modern search still relies on the query-response paradigm, which is characterized by a sharp contrast between the richness of data in the index, and the relative poverty of information in the query, usually expressed in a few keywords to capture a complex need. This is particularly true in online search services, where the same query may be observed from many users, with considerable variations in their search intents. Contextual information is the obvious route to try to restore the balance, and behavioral data related to user's searching and browsing activities provides new opportunities to model contextual aspects of user needs. The importance of contextual information in search applications has been recognized by researchers and practitioners in many disciplines, including recommendation systems, information retrieval, ubiquitous and mobile computing, and marketing. Context-aware systems adapt to users' operations and thus aim at improving the usability and effectiveness by taking context into account. In this thesis, we consider two types of behavior: searching, when users are issuing queries and we are trying to improve search engine results page by taking context of sessions into account, and browsing, when users are surfing a website and we are predicting their movements using context. Finding ways to better leverage contextual information and make search context-aware holds the promise to dramatically improve the search experience of users. We conducted a series of studies to discover, model and use contextual information in order to understand and improve users' searching and browsing behavior on the web.

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## Work Experience

- July 2016 – **Postdoctoral Researcher**, *University of Amsterdam, Information and Language Processing Systems group (ILPS)*, Amsterdam, the Netherlands.  
now Understanding Context-Aware User Satisfaction with Mobile Devices
- Sep. 2015 – **Co-Founder**, *UserSat.com*, Amsterdam, the Netherlands.  
now Predicting User Emotions in mobile Environment
- Summer 2015 **Research Intern**, *Research Intern*, Redmond, WA, USA.  
2015 Understanding and Predicting User Satisfaction with Cortana
- Nov. 2014 – **Research Intern**, *Booking.com*, Amsterdam, the Netherlands.  
Mar. 2015 Working on Continuous Cold Start Problem
- Nov. 2013 – **Research Intern**, *Bing*, Munich, Germany.  
Mar. 2014 Working on understanding changes in user satisfaction with search result page
- Jun. 2011 – **Software Developer**, *Yandex.ru*, Saint-Petersburg, Russia.  
Mar 2012 Working on ranking algorithms for verticals e.g. Auto, Job
- May 2010 – **Research Engineer**, *Hewlett-Packard Laboratories*, Saint-Petersburg, Russia.  
Jun. 2011 Working on query understanding techniques
- Aug. 2009 – **Research Assistant**, *Emory Intelligent Information Access Lab*, Atlanta, GA, USA.  
May 2010 Working on query segmentation methods for product search
- Jan. 2008 – **Research Engineer**, *NebuAd*, Saint-Petersburg, Russia.  
July 2009 Developing algorithms for behavioural targeting
- Jun. 2007 – **System Analyst**, *Epam Systems*, Saint-Petersburg, Russia.  
Dec. 2007

## Teaching Activities

- 2017 **Co-lecturer**, *11th Russian Summer School in Information Retrieval (RuS-SIR)*, Course “Neural Networks for Information Retrieval”.
- Spring 2017 **Lecturer**, *University of Amsterdam*, Course “Information Retrieval & Intelligent Web Application”.
- 2015 **Lecturer**, *9th Russian Summer School in Information Retrieval (RuSSIR)*, Course “Contextual Search and Exploration”.
- Fall 2011 **Lecturer**, *Computer Science Center*, Course “An introduction to data mining”.
- Fall 2010, **Co-Lecturer**, *Computer Science Center*, Co-lectured the Bachelor course  
Fall 2011 “Information management techniques”.

## Academic Services

- 2015, 2016 **Co-organiser**, *Contextual Suggestion Track: TREC 2015, 2016 with dr. Jaap Kamps, Prof. dr. Charles L.A. Clarke, Seyyed Hadi Hashemi and Adriel Dean-Hall.*

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## 2010 – now **Conference Program Committee / Reviewer.**

- Reviewer for international journals:
  - Information Processing & Management (IPM)
  - ACM Transactions on Information Systems (TOIS)
  - Information Retrieval Journal (IRJ)
  - Computers – Open Access Journal
  - Information Processing Letters
- Program Committee member:
  - The Thirty-Second AAAI Conference on Artificial Intelligence (AAAI) 2018
  - ACM International Conference on Web Search and Data Mining (WSDM) 2018
  - ACM SIGIR International Conference on Research and Development in Information Retrieval 2015, 2016, 2017
  - International World Wide Web Conference (posters) 2017, 2018
  - European Conference on Information Retrieval (demos) 2017
  - ACM International Conference on Information Knowledge and Management 2015
  - Annual Meeting of the Association for Computational Linguistics 2016
  - International Workshop on Natural Language Processing for Informal Text 2016
  - Dutch-Belgian Information Retrieval Workshop 2015, 2016
  - Artificial Intelligence and Natural Language Conference 2015, 2016
  - Russian Summer School in Information Retrieval 2015, 2016
  - Conference on User Modeling, Adaptation and Personalization 2013
- Organizing committee member:
  - Chair at Workshop on Search-Oriented Conversational AI (SCAI 2017)
  - Publicity Chair at ACM International Conference on the Theory of Information Retrieval 2017.
  - Co-chair Russian Summer School in Information Retrieval, RuSSIR'17 (RuSSIR is expected to host 10 top-level international lecturers and 120 students from Russia and Europe).
- Co-supervising PhD candidate Rolf Jagerman (jointly with Prof. dr. Maarten de Rijke) since July 2016.
- Co-supervising PhD candidate Ziming Li (jointly with Prof. dr. Maarten de Rijke) since September 2016.

## Awards

Outstanding Reviewer SIGIR 2017

Travel grants SIGIR 2015, CIKM 2015, CHIIR 2016, SIGIR 2016

STW Grants STW Take-off Grant, 40K €

## Research dissemination

- The results of PhD thesis has got attention at Dutch national media. Our interview with BNR radio is available<sup>1</sup>;
- The talk about “Emphatic Devices” at TedXEindhoven Event is available <sup>2</sup>.
- The publication in Slash magazine (is the corporate magazine of Eindhoven University of

<http://www.bnr.nl/radio/wetenschap-vandaag/10306606/googelen-met-gevoel>  
<https://youtube.com/watch?v=M-KMIT6ksZw>

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Technology) about PhD research available<sup>3</sup>

- The talk about satisfaction with voice-controlled intelligent assistants at SEA: Search Engines Amsterdam
- Organizing the spin-off company which got attention in media<sup>4</sup>

## Skills & Tools

Java, C#, python, R  
Hadoop, Hive, Pig, MySQL

## Languages

English **fluent**  
Russian **Native**  
Dutch **Basic**

## Publications

- [1] Lucas Bernardi, Jaap Kamps, **Julia Kiseleva**, and Melanie J. I. Müller. The continuous cold start problem in e-commerce recommender systems. In *Proceedings of the Workshop on New Trends on Content-Based Recommender Systems co-located with ACM Conference on Recommender Systems*, pages 30–33, 2015.
- [2] Mikhail Burtsev, Aleksandr Chuklin, **Julia Kiseleva**, and Alexey Borisov. Search-oriented conversational AI (SCAI). In *Proceedings of the ACM SIGIR International Conference on Theory of Information Retrieval, ICTIR 2017, Amsterdam, The Netherlands, October 1-4, 2017*, pages 333–334, 2017.
- [3] Adriel Dean-Hall, Charles L. A. Clarke, Jaap Kamps, and **Julia Kiseleva**. Online evaluation of point-of-interest recommendation systems. In *Proceedings of SCST@ECIR*, 2015.
- [4] Adriel Dean-Hall, Charles L. A. Clarke, Jaap Kamps, **Julia Kiseleva**, and Ellen M. Voorhees. Overview of the TREC 2015 contextual suggestion track. In *Proceedings of the Text REtrieval Conference (TREC)*, 2015.
- [5] Seyyed Hadi Hashemi, Charles L. A. Clarke, Adriel Dean-Hall, Jaap Kamps, and **Julia Kiseleva**. On the reusability of open test collections. In *Proceedings of the International ACM SIGIR Conference on Research & Development in Information Retrieval*, pages 827–830, 2015.
- [6] Seyyed Hadi Hashemi, Charles L. A. Clarke, Adriel Dean-Hall, Jaap Kamps, and **Julia Kiseleva**. An easter egg hunting approach to test collection building in dynamic domains. In *EVIA@NTCIR*, 2016.

[https://static.tue.nl/fileadmin/content/universiteit/publicaties/Slash\\_15\\_english\\_spread.pdf](https://static.tue.nl/fileadmin/content/universiteit/publicaties/Slash_15_english_spread.pdf)

<http://www.ace-venturelab.org/news/4771/>

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- [7] Seyyed Hadi Hashemi, Charles L. A. Clarke, Jaap Kamps, **Julia Kiseleva**, and Ellen M. Voorhees. Overview of the TREC 2016 contextual suggestion track. In *Proceedings of the Text REtrieval Conference (TREC)*, 2016.
- [8] Rolf Jagerman, **Julia Kiseleva**, and Maarten de Rijke. Modeling label ambiguity for neural list-wise learning to rank. *CoRR*, abs/1707.07493, 2017.
- [9] Hoang Thanh Lam, **Julia Kiseleva**, Mykola Pechenizkiy, and Toon Calders. Decomposing a sequence into independent subsequences using compression algorithms. In *Proceeding of the ACM SIGKDD Workshop on Interactive Data Exploration and Analytic (IDEA)*, pages 67–75, 2014.
- [10] Ziming Li, **Julia Kiseleva**, Maarten de Rijke, and Artem Grotov. Towards learning reward functions from user interactions. In *Proceedings of the ACM SIGIR International Conference on Theory of Information Retrieval, ICTIR 2017, Amsterdam, The Netherlands, October 1-4, 2017*, pages 289–292, 2017.
- [11] Jose Simoes, **Julia Kiseleva**, Elena Sivogolovko, and Boris Novikov. Exploring influence and interests among users within social networks. In *Computational Social Networks*, pages 177–206. Springer London, 2012.
- [12] Nikita Spirin, Mikhail Kuznetsov, **Julia Kiseleva**, Yaroslav Spirin, and Pavel Izhutov. Relevance-aware filtering of tuples sorted by an attribute value via direct optimization of metrics. In *Proceedings of the International ACM SIGIR Conference on Research & Development in Information Retrieval*, pages 979–982, 2015.
- [13] **Julia Kiseleva**. Grouping web users based on query log. In *Advances in Databases and Information Systems, Proceedings of the East European Conference (ADBIS)*, pages 184–190, 2008.
- [14] **Julia Kiseleva**. *Methods for web query analysis (in Russian)*. LAP LAMBERT Academic Publishing, 2011.
- [15] **Julia Kiseleva**. Context mining and integration into predictive web analytics. In *Proceedings of the International Conference on World Wide Web (WWW)*, pages 383–388, 2013.
- [16] **Julia Kiseleva**. Using contextual information to understand searching and browsing behavior. In *Proceedings of the International ACM SIGIR Conference on Research & Development in Information Retrieval (Doctoral Consortium)*, page 1059, 2015.
- [17] **Julia Kiseleva**. *Using Contextual Information to Understand Searching and Browsing Behavior*. PhD thesis, Eindhoven University of Technology, 2016.
- [18] **Julia Kiseleva**, Eugene Agichtein, and Daniel Billsus. Mining query structure from click data: a case study of product queries. In *Proceedings of the ACM Conference on Information and Knowledge Management (CIKM)*, pages 2217–2220, 2011.

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- [19] **Julia Kiseleva**, Eric Crestan, Riccardo Brigo, and Roland Dittel. Modelling and detecting changes in user satisfaction. In *Proceedings of the ACM International Conference on Information and Knowledge Management (CIKM)*, pages 1449–1458, 2014.
- [20] **Julia Kiseleva** and Maarten de Rijke. Evaluating personal assistants on mobile devices. *CoRR*, abs/1706.04524, 2017.
- [21] **Julia Kiseleva**, Qi Guo, Eugene Agichtein, Daniel Billsus, and Wei Chai. Un-supervised query segmentation using click data: preliminary results. In *Proceedings of the International Conference on World Wide Web (WWW)*, pages 1131–1132, 2010.
- [22] **Julia Kiseleva**, Jaap Kamps, and Charles L. A. Clarke. Contextual search and exploration. *Communications in Computer and Information Science*, 2015.
- [23] **Julia Kiseleva**, Jaap Kamps, Vadim Nikulin, and Nikita Makarov. Behavioral dynamics from the SERP’s perspective: What are failed SERPs and how to fix them? In *Proceedings of the ACM International Conference on Information and Knowledge Management (CIKM)*, pages 1561–1570, 2015.
- [24] **Julia Kiseleva**, Hoang Thanh Lam, Mykola Pechenizkiy, and Toon Calders. Discovering temporal hidden contexts in web sessions for user trail prediction. In *Companion Proceedings of the International Conference on World Wide Web (TempWeb)*, pages 1067–1074, 2013.
- [25] **Julia Kiseleva**, Hoang Thanh Lam, Mykola Pechenizkiy, and Toon Calders. Predicting current user intent with contextual markov models. In *Proceedings of the IEEE International Conference on Data Mining Workshops (ICDMW)*, pages 391–398, 2013.
- [26] **Julia Kiseleva**, Alejandro Montes García, Jaap Kamps, and Nikita Spirin. The impact of technical domain expertise on search behavior and task outcome. In *Proceedings of WSDM Workshop on Query Understanding and Reformulation for Mobile and Web Search (QRUMS)*, 2016.
- [27] **Julia Kiseleva**, Alejandro Montes García, Yongming Luo, Jaap Kamps, Mykola Pechenizkiy, and Paul De Bra. Applying learning to rank techniques to contextual suggestions. In *Proceedings of the Text REtrieval Conference (TREC)*, 2014.
- [28] **Julia Kiseleva**, Melanie J. I. Müller, Lucas Bernardi, Chad Davis, Ivan Kovacek, Mats Stafseng Einarsen, Jaap Kamps, Alexander Tuzhilin, and Djoerd Hiemstra. Where to go on your next trip? optimizing travel destinations based on user preferences. In *Proceedings of the International ACM SIGIR Conference on Research & Development in Information Retrieval*, pages 1097–1100, 2015.
- [29] **Julia Kiseleva**, Alexander Tuzhilin, Jaap Kamps, Melanie J. I. Müller, Lucas Bernardi, Chad Davis, Ivan Kovacek, Mats Stafseng Einarsen, and Djoerd

Hiemstra. Beyond movie recommendations: Solving the continuous cold start problem in e-commerce recommendations. *CoRR*, 1607.07904, 2016.

- [30] **Julia Kiseleva**, Kyle Williams, Ahmed Hassan Awadallah, Imed Zitouni, Aidan Crook, and Tasos Anastasakos. Predicting user satisfaction with intelligent assistants. In *Proceedings of the International ACM SIGIR Conference on Research & Development in Information Retrieval*, 2016.
- [31] **Julia Kiseleva**, Kyle Williams, Jiepu Jiang, Ahmed Hassan Awadallah, Imed Zitouni, Aidan Crook, and Tasos Anastasakos. Understanding user satisfaction with intelligent assistants. In *Proceedings of the ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR)*, pages 121 – 130, 2016.
- [32] Kyle Williams, **Julia Kiseleva**, Aidan Crook, Imed Zitouni, Ahmed Hassan Awadallah, and Madian Khabza. Is this your final answer? evaluating the effect of answers on good abandonment in mobile search. In *Proceedings of the International ACM SIGIR Conference on Research & Development in Information Retrieval*, 2016.
- [33] Kyle Williams, **Julia Kiseleva**, Aidan C. Crook, Imed Zitouni, Ahmed Hassan Awadallah, and Madian Khabza. Detecting good abandonment in mobile search. In *Proceedings of the International Conference on World Wide Web (WWW)*, pages 495 – 505, 2016.